Thomas A. Edison Papers Digital Edition

Edison-Miller Family Records

Edison-Ford Winter Estates, Fort Myers, Fla.

[X104B2-F] Notebook

Company and Laboratory Records

Title

[X104B2-F] Notebook

Description

The one dated entry in this notebook is from March 16, 1912. The book was used by Edison at his Fort Myers laboratory primarily for notes on battery and electrical system experiments. Much of the book consists of calculations, drawings, and electrical diagrams. There are also lists of projects on which Edison was working, including home and educational kinetoscopes and films, cylinder and disc phonographs, a speaking picture phonograph (kinetophone), dynamos and rectifiers for house lighting, Leland batteries, small wagon motors, Bates numbering machines, and cement phonograph cabinets. Inserted into the book is a note from Charles Edison to his father, dated July 2, 1928, regarding power house statistics and alternating versus direct current. The pages are unnumbered. Approximately 65 pages have been used.

URL

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Is Version Of

Notebook Viewer, Edison Notebook X104B2-N

Identifier

X104B2-F

Alternative Title

Company and Laboratory Records -- Notebook

Is Part Of

Company and Laboratory Records

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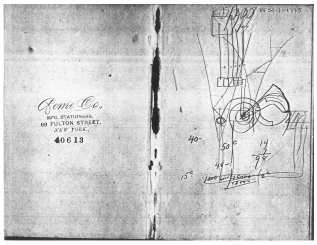

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[X104B2] Technical Note, March 1912

Title
[X104B2] Technical Note, March 1912

Editor's Notes
Supplied year and month

Author
Edison, Thomas Alva

Date
1912-03-00

Type
Technical Note

Folder ID
X104B2-F

Document ID
X104B2

URL
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Timestamp
1 March 1912

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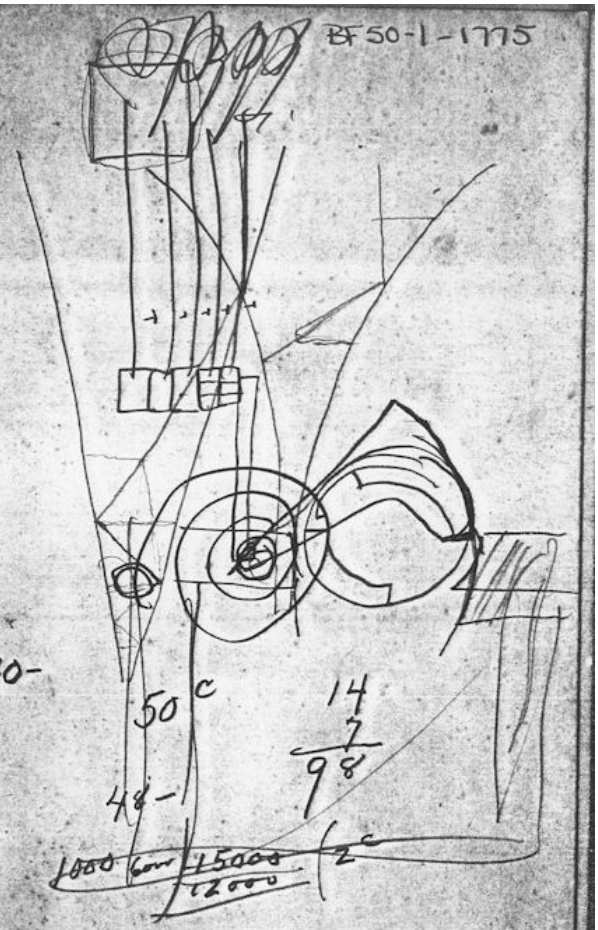
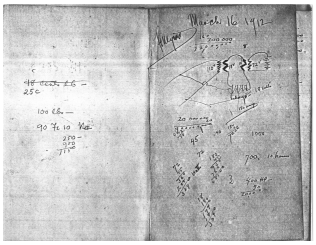
Acme Co.,

MFG. STATIONERS,
69 FULTON STREET,
NEW YORK.

40613

BF 50-1-1775





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[X104B2003], Technical Note, Thomas Alva Edison, March 16th, 1912

Title
[X104B2003], Technical Note, Thomas Alva Edison, March 16th, 1912

Author
Edison, Thomas Alva

Date
1912-03-16

Type
Technical Note

Subject

- Profits and losses
- Electric traction
- Electric battery
- Dynamos and generators
- Electrical distribution system

Folder ID
X104B2-F

Document ID
X104B2003

URL
https://edisondigital.rutgers.edu/document/X104B2003

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Timestamp
16 March 1912

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~~18 cents lb~~ —
25c

100 lbs —

90 72 10 Watts

250 —
900
1150

March 16 1912

20 000 000 20

45 40 1000

72

700. 10 hours

2 400 HP —
50
20000

Watts

12 / 3000 / 54000

43 / 3000 / 122

2 Rolls 14oz Tons HP - 300 days 10 tons 40 000
foreman Engineer - 7200

Millmen 20. $60. 18.000-

Locos, shovels RR etc

Shovel 30 day others 25

RR 25 total 80 day 24000

Wear plates 3c lin 12 200-

Supplies Repairs - 30 000

131 1408

420000 | 131 40000 | 31c
126 0000
540000

20 | 1½c

1400 / 3000 / 42000

36" wide 1/32 thick

10 ft min - 24 hours 1440 mins

14400 ft day - 1/10" thick 1 ft wide -

10 ft to inch | 120 ft to Cubic ft

120 | 14400 | 120
120
240
240

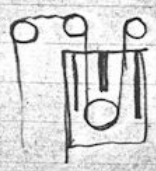
120
120
30000
15

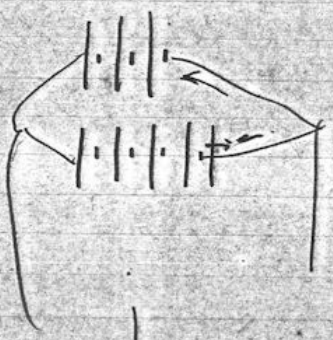
18 = 1/16
60

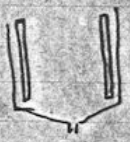
2

60 | 1400 | 23
120
200
180
20

24
60
47







67 million ft 24 hours

67 | 22 500. | 336
201
241
200
392
40

60 | 5240 | 87
48
440
4

Take 1 year at 1 mile hour - or 80 ft/min - to lower one foot,

Cocolobie 30x30

5200
5200
1040000
26000
27104001

1 mile sqr 1 ft deep has 25 million Cubic ft

900 sqr miles

25
62
900
1500
1550
2000

30
30
900

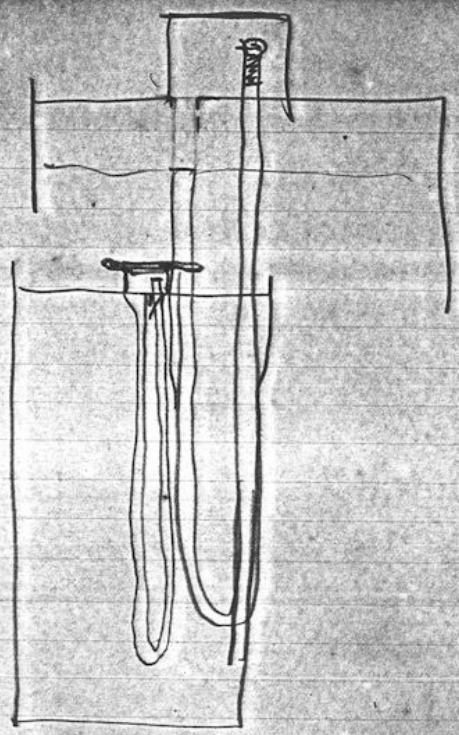
25
900
22,500 millions Cubic ft

60ft x 9 540 ft -

1 mile hour,

5240
540
20960
26200
2,829,6

2,800,000 ft hour
24
112000000
56
67,200,1



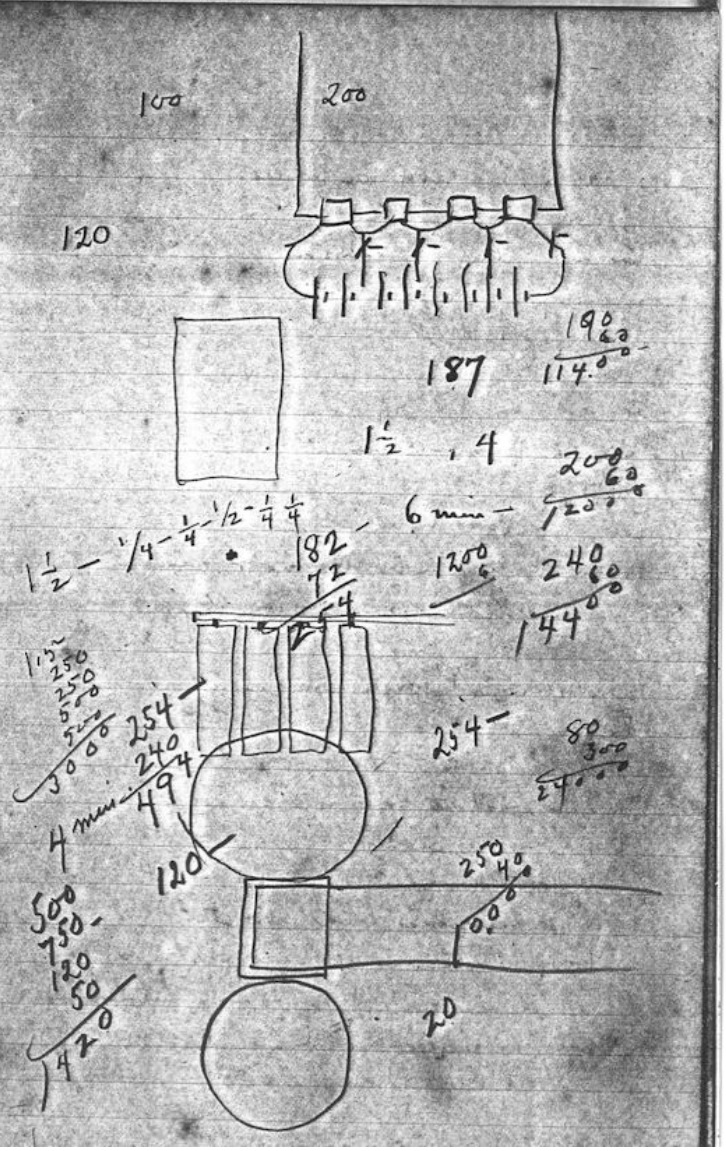
Ni_2O_3 Li_2 – most weakest –

UO_3 K_2 – Li_2 most – Uranium yellow – Stronger Comb.

Bi_2O_3 K_2 – Li_2 Strongest

Co_2 – Li stronger combn

But Bi_2O_3 does dont act alone – hence its not this combn directly that does it, it must O_2 they do something else,
CO_2 would act as conductor
Bi_2O_3
UO_2
and are not so easily reduced as Ni_2O_3 hence stay a conduct as long as any Ni_2O_3 present
Bi is probably best as it O_x is better Conductor & if fully reduced is a metal this may be best of Uran if so it will be better than Cobalt,



B_2O_3 Li K
Co_2 Li K
UO_3 Li K
Ni_2O_2 Li K
} Lithium Potassium Salts of the feeble acid oxides - Insol.

probably only Ni_2O_2 is endothermic

If they combine they may not be Conductors, chances are that they dont combine, yet we know Li is fused on charge, so it

that they all combine + are still Conductors, this is probably it

Or is it that the compounds Convert the Ni_2O_2 together + present subsequent Charge - all Co U + Bi being of little Value,

Or

Buried Cathode 40% of PbO_2 must remain to conduct

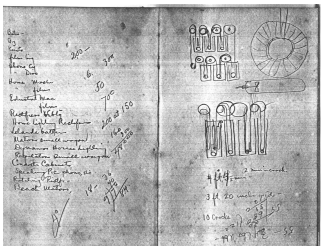
It probable that all act as Conductors, AgO forms a Peroxide but is not a Conductor therefore dont act Aluminide Etc all are non conductors - Therefore the best theory is that good results come from Conductivity

AgO dont act as its cathode + only Conducts perhaps never used Enough - as Induced Ag does good

Probably Ni_2O combines with Ni_2O_2

1631
68
1304
9786
1109

.38 | 62 | 38 | 240 | 220 | 24 | 110 | 6



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[X104B2016], List, Thomas Alva Edison, March 1912

Title
[X104B2016], List, Thomas Alva Edison, March 1912

Editor's Notes
Supplied year and month

Author
Edison, Thomas Alva

Mentioned

- Bates Manufacturing Co
- Federal Storage Battery Car Co

Date
1912-03-00

Type
List

Subject

- Automobiles and trucks
- Electric battery
- Motors
- Cement products
- Cylinder phonograph
- Disc phonograph
- Kinetophone and other talking pictures
- Home and professional kinetoscope

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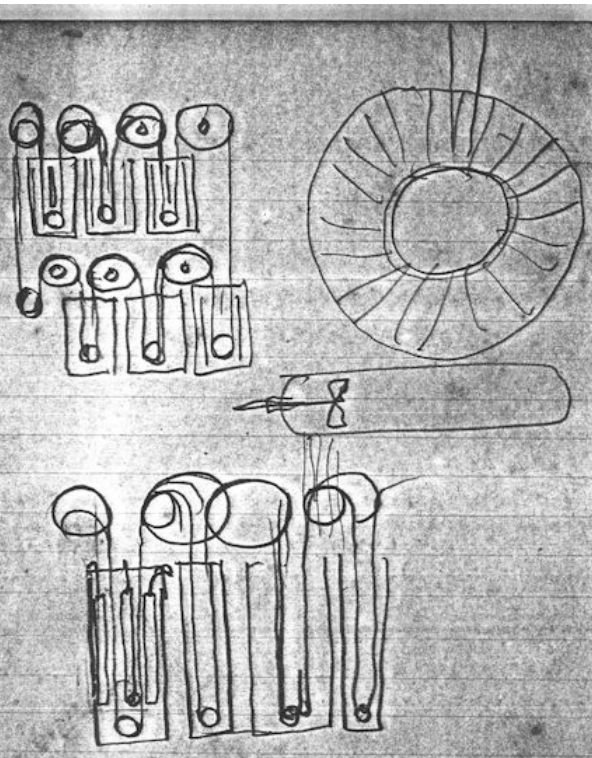
Bates –
Bd 3
Kinetos
film big
phono Cy
" Disc

Home Machs
" films
Educatnl Mac
films
Rectifiers Kehlg
Home lighting Rectifiers
Lelande batteries
Motors small wagons
Dynamos Horse lighting
Regulators small wagons
Concrete Cabinets
Speaking Pic phonos, etc
Rotating Rectifs –
Beach Motors,

200 –
300
6.
50
70
200 at 150
160 350 500
450 000
36
40
18'
9 17 84

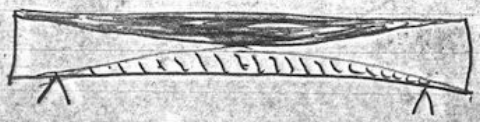


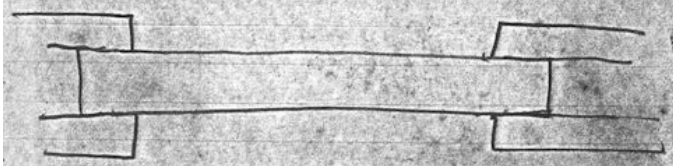
4 ft. 4½ 2 runs in crock –

3 ft. 20 inches wide –

10 Crocks

55 – 3 ft 10 ½ –





11295

239 1300 1150 150 8.4

753 15

376 75.3

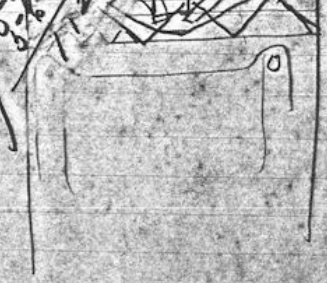
11295

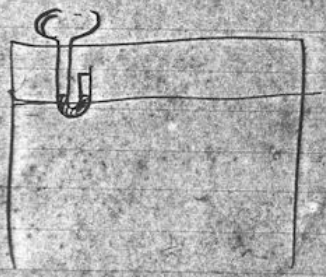
240 3.14 960 240 720 31

240 3

240 240 600 480 120 5.5

11295





79) 2000 (25
158
420
395

Base 1400 lbs - - 150 watts low

40 lbs draw Each ton additional 79 watts low mile -

40 watts — 145 watts - 2500 lbs

105
145

5240
40
209.60 (1980.000 (.94
1886.400
93.600

94) 7460 (7.9 1/8
658
846
846

25 lbs per watt low

79

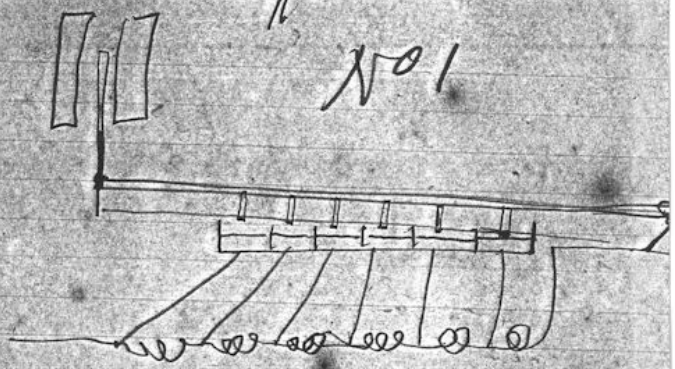
25) 1000 (40

150) 2000 (13,3
150
500
450
50

13.3) 14000 (105 —
133.00
7

79 watts low mile

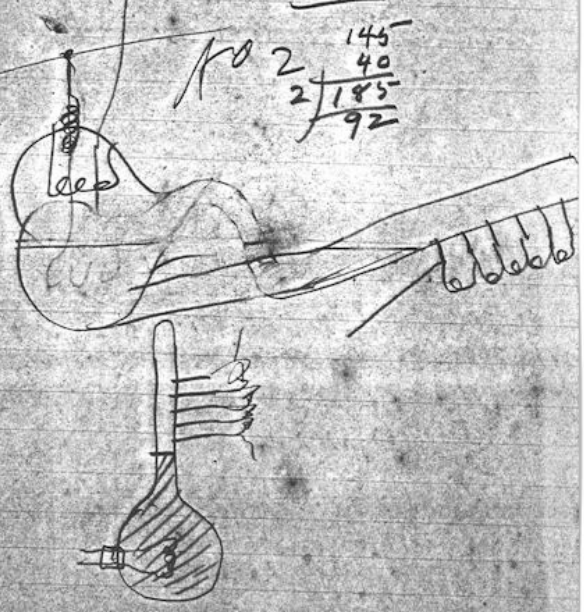
No 1



105
40

145
40
185
92

No 2



70 watts ton mile Recorded

850
80
76.50
8
612.00

76.50
612
7.038

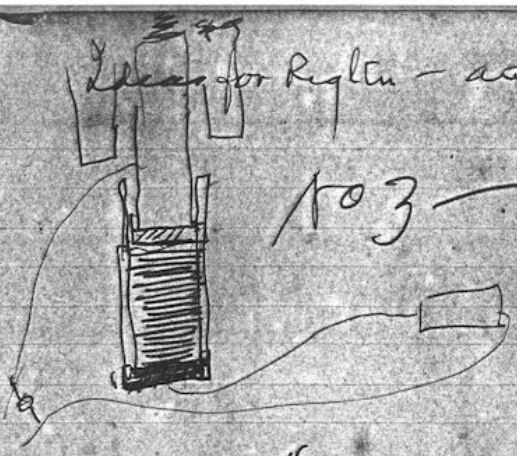
70 watts
1

70%

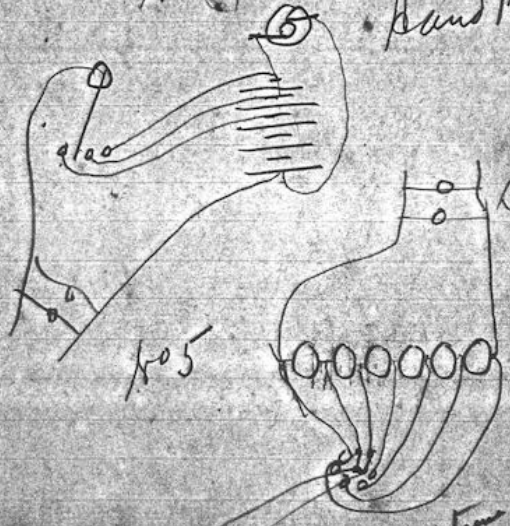
125,000 3 1100 daily
37.50

Ideas for Regtn – auto + Hand

103



104 Hand Regtn



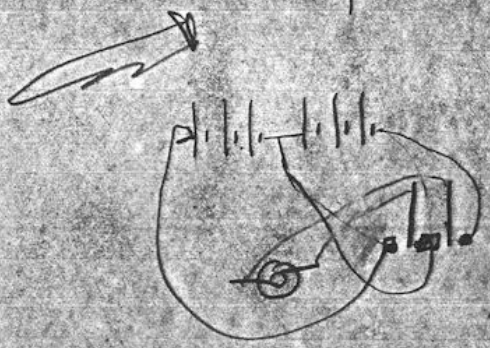
105

Dynamo

Chg 1 Call at time 5 Times rate. connected worked by Dynamo –

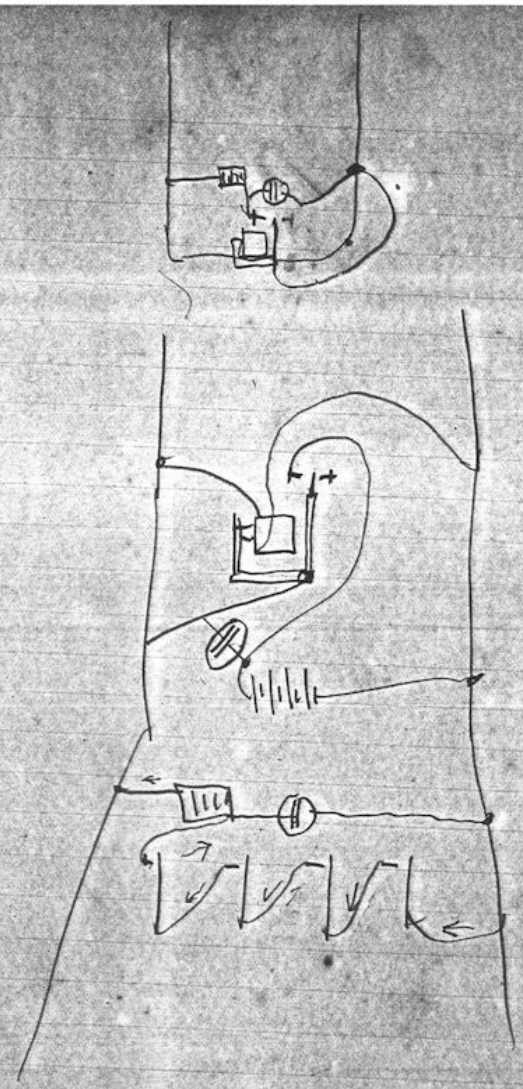
No. 6 –

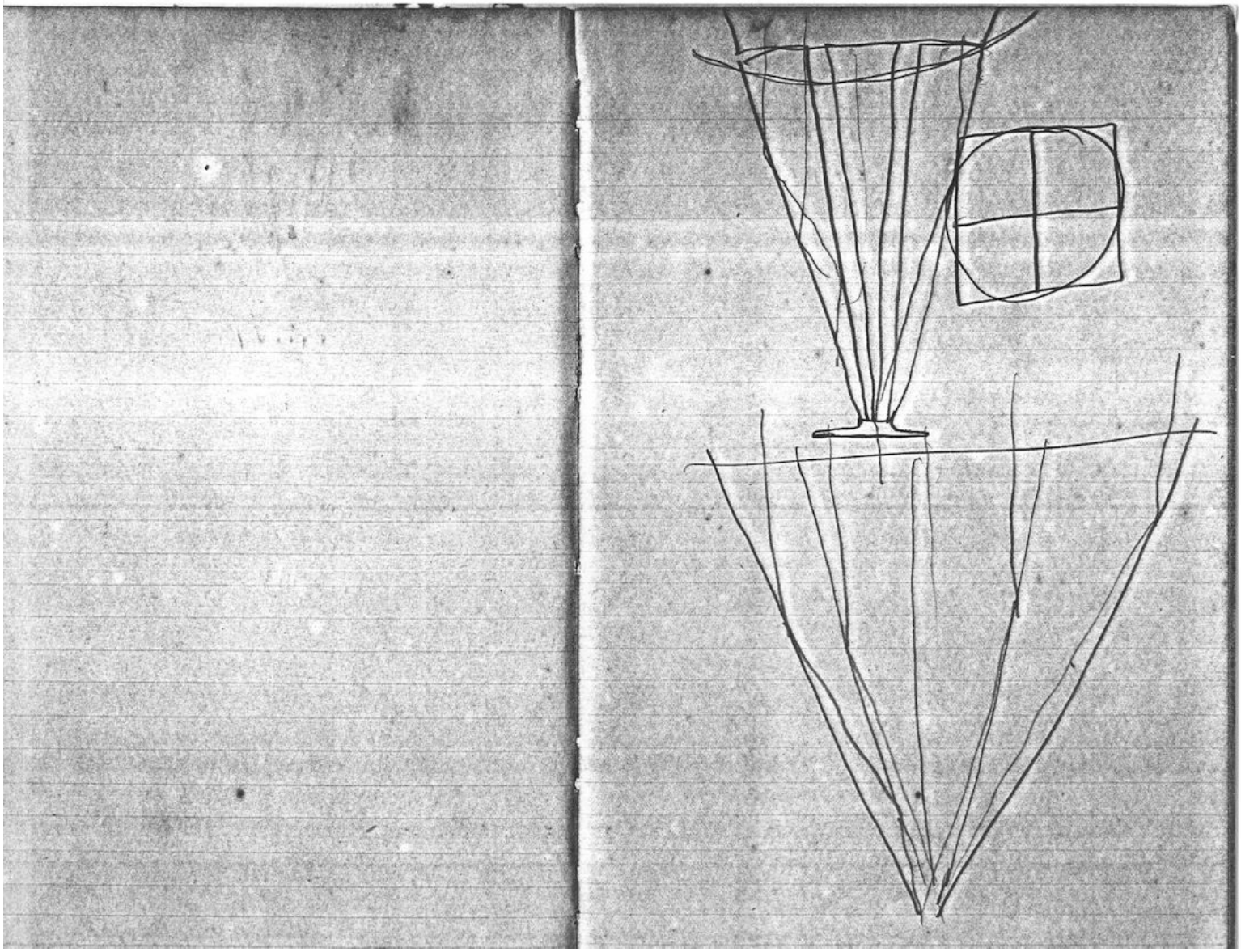
Change 3 – allow 3 on light, + sparking – when gets loose switch turns over to other 3 = on cranking all 6 are connected – This is very peculiar –

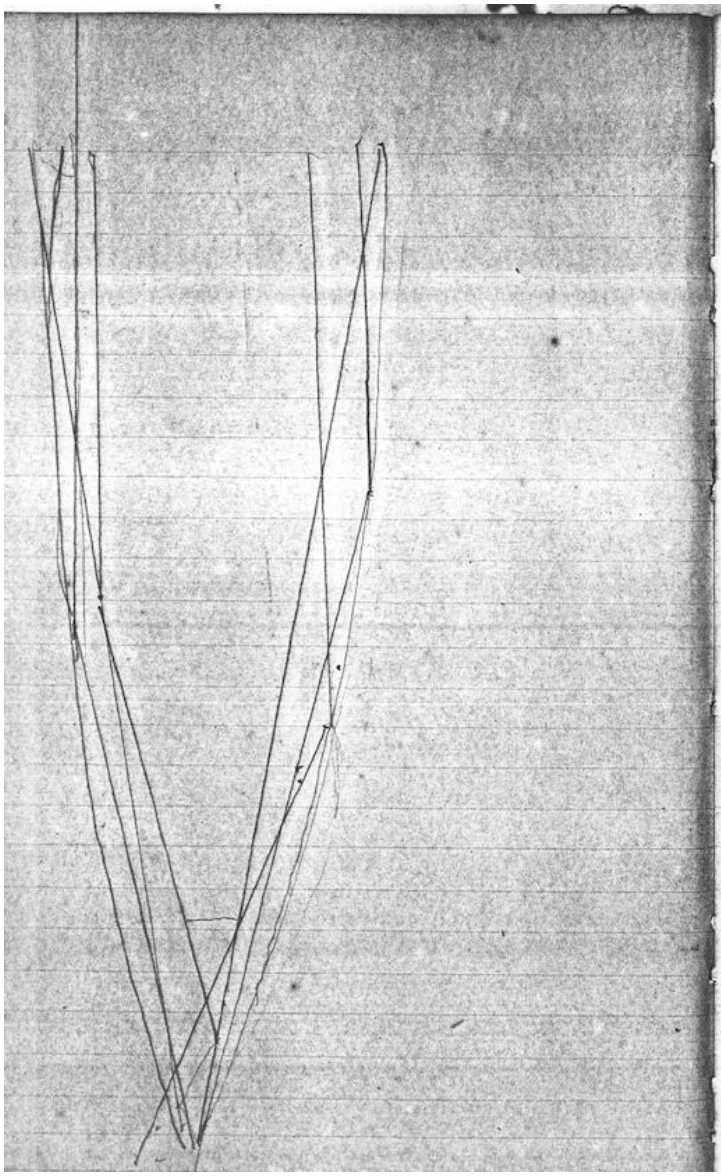


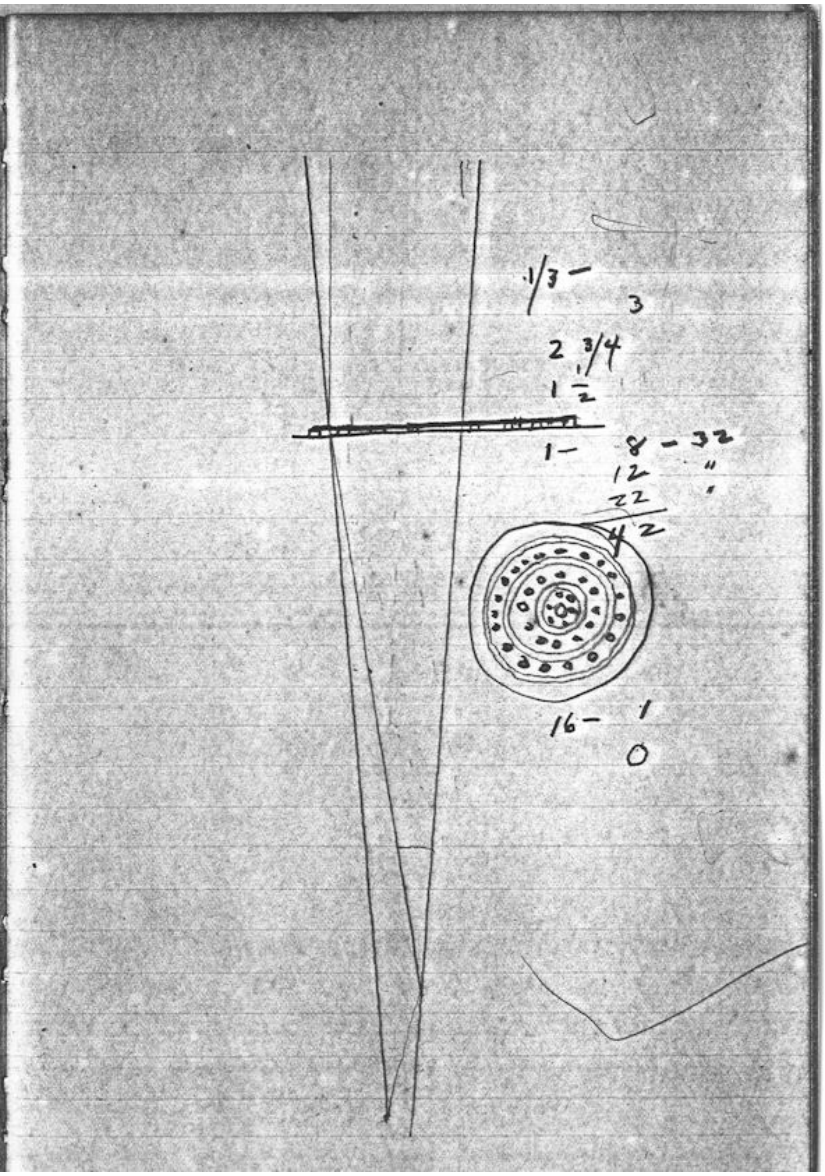
Both switches thrown at same time –

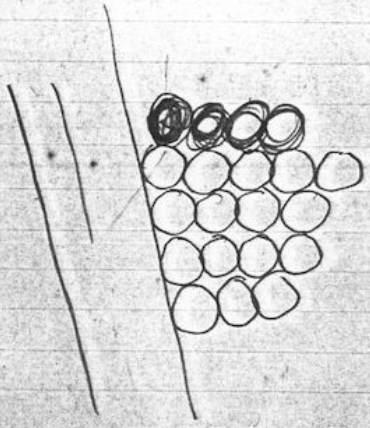
This could be automatic by a double worm connected to Dynamo vertical moving up + dropping suddenly every minute –

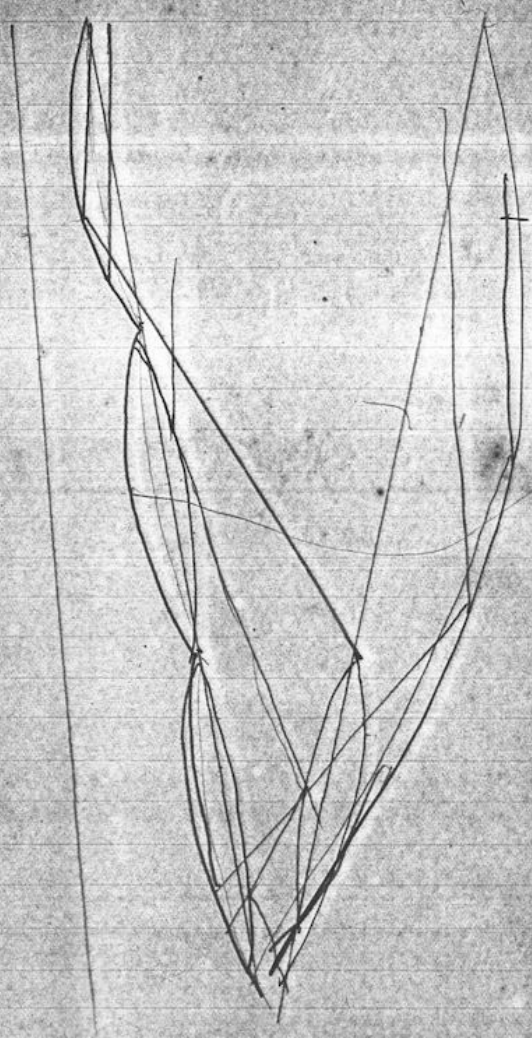


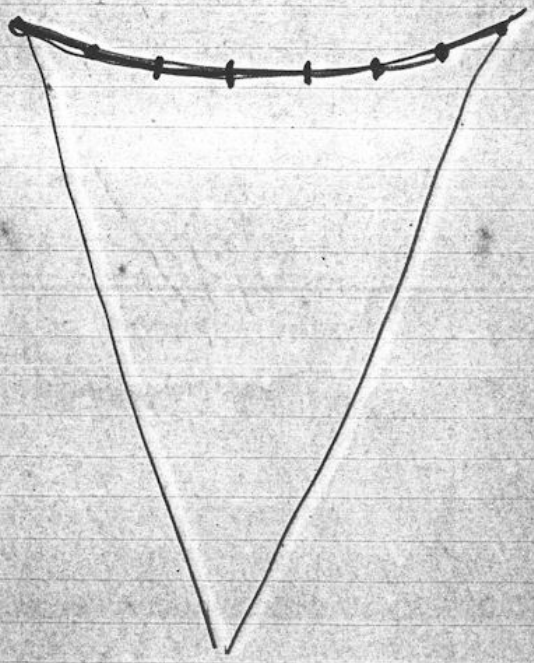


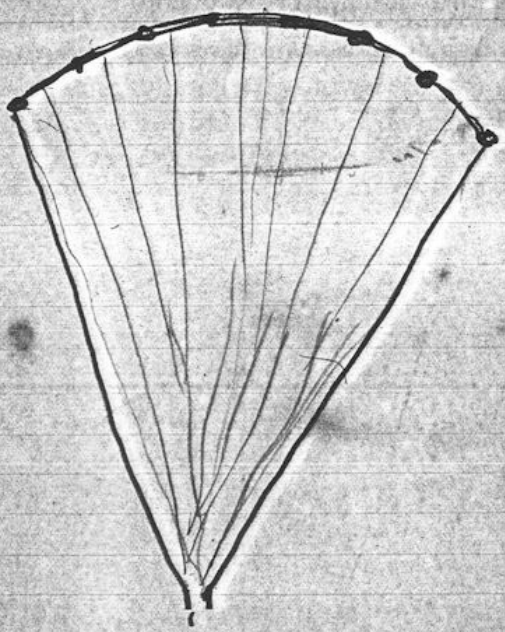



1/3 –
3
2 3/4
1 1/2
1 –
8 – 32
12
22
4 2
16 – 1
0









1350 60 810

820 60 492

30 60 1800 12 7200 $82.0

2 | 1350 675 $13.50

Battery 60 A 6 $20.

1200 240 960 48 $912

obtain -

Renew 60 A 6 -
6 plates $820 cell -
$492 for 60 cells -
get.

810 / 1722

Cost. original Cells 60 912
" Renewed Cells 492 492
1404

29

36
3
108

100+

4.4

1800 (41
1760
4

2795 - 9145 (32
8385
7600

280 20
56

flake 86.
84-
129

6 plates - 24 30
20 500
20

180 4
720
120 -
84

840
129
711

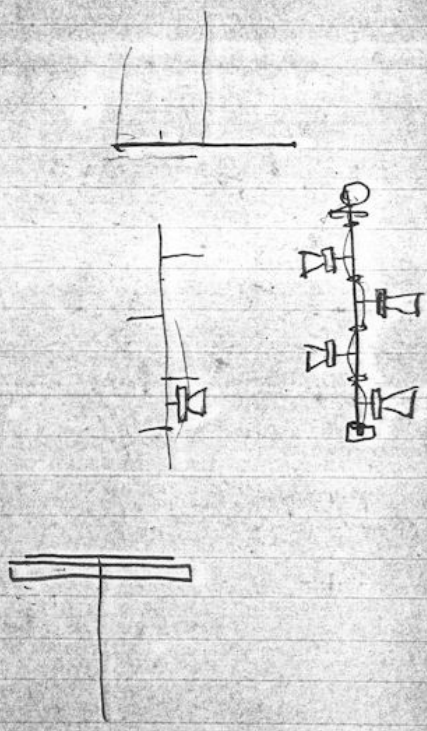
711 - 1500
711
789

7060/500 (80

2795
2498
297

327-

	327
Mg	108
Mg	70
Flake	41
Rubber	100
Gate wood	40
Solution	40
Metal	80
	806



50
200
1000

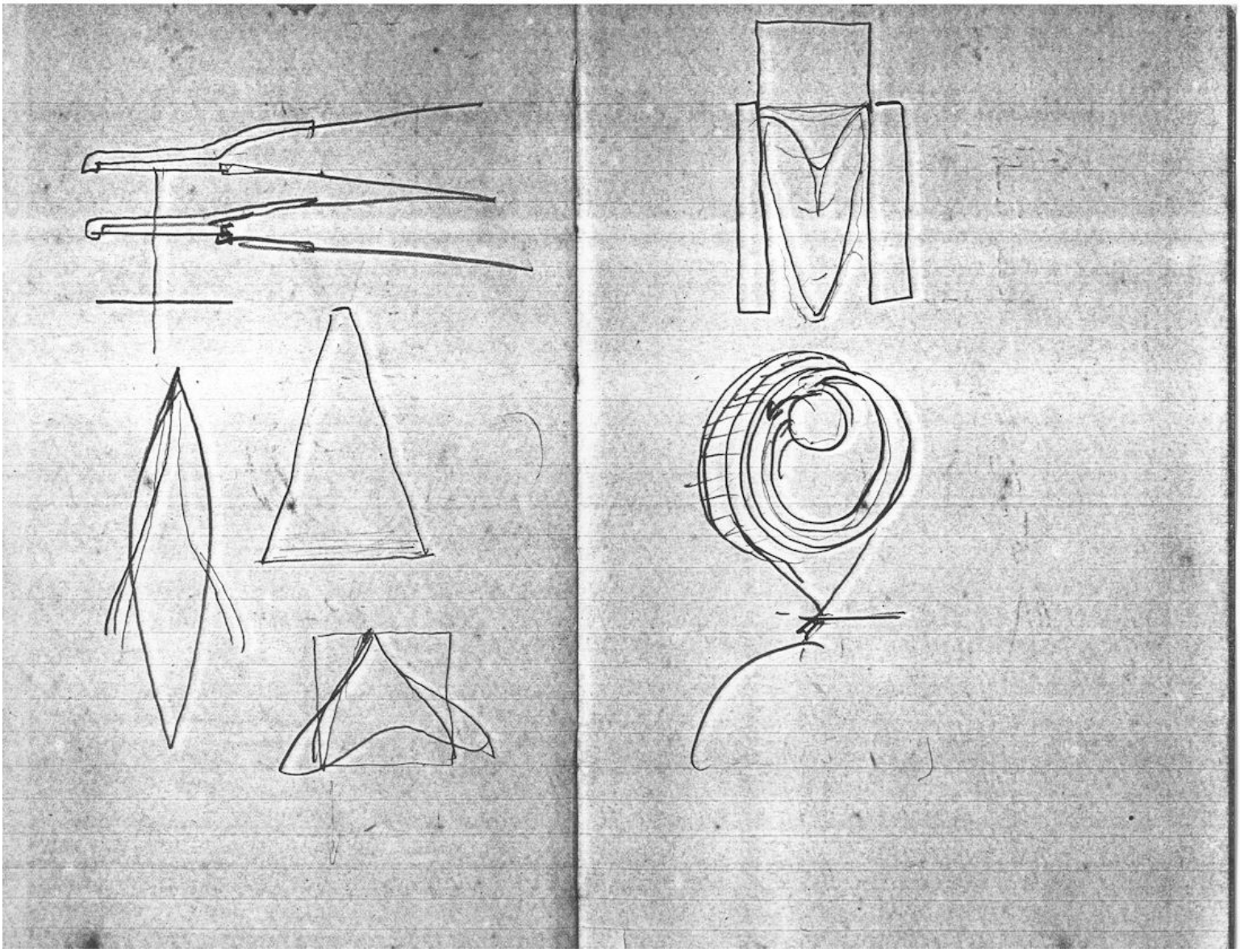
3000) 9250 (308
9000
250

3300) 9300 (2,82
6600
2700
2640
60

350
282
68

2500) 238000 (95
2250
1300
1250
50

2500) 100000 (35
8400
1600



21000 pounds —

21000 productum —

Selling 26
3
10
12
12
3
22

7 | 82
12

7 | 66
94

7
10
80

21000 | 26
12600 | 3000
4200 | 346
3

23
703

799
103
40
942

1066
942
124

1.24 —
28
20
15

3000 | 18449 | 6 flaskfe
18000
449

1.870
3
3610 00

1.87

3000 | 16400 | 5
15000

3 | 184
61

4 | 184
46

6 | 184
31

7 | 184
26

1.84
93
61
46
37
81
26

3000
6000
9000
12000
15000
18
21

K Uranate UO_3 Uranic acid

$K_2U_2O_7$ –

K Cobaltate

$Co_9O_{16}K_2 + 3H_2O$

$KBiO_3$ – Bi_2O_3 = Bismuthous acid

or $K_2Bi_4O_{11} + H_2O$ – Write combine make this

probably Ni – same as Cobalt.

$Ni_9O_{16}K_2$ 8.16%

		Ni	522	
		O	256	
58	16	K	78	
9	16		900	7800 / 7200 / 600 — 8.2
522	96			
	160			
	256			

39
2
78

7% Combines –

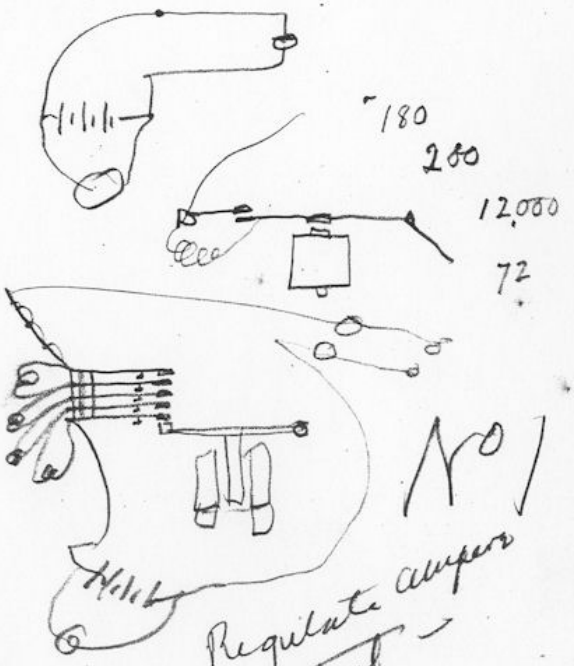
90 – 75 grams

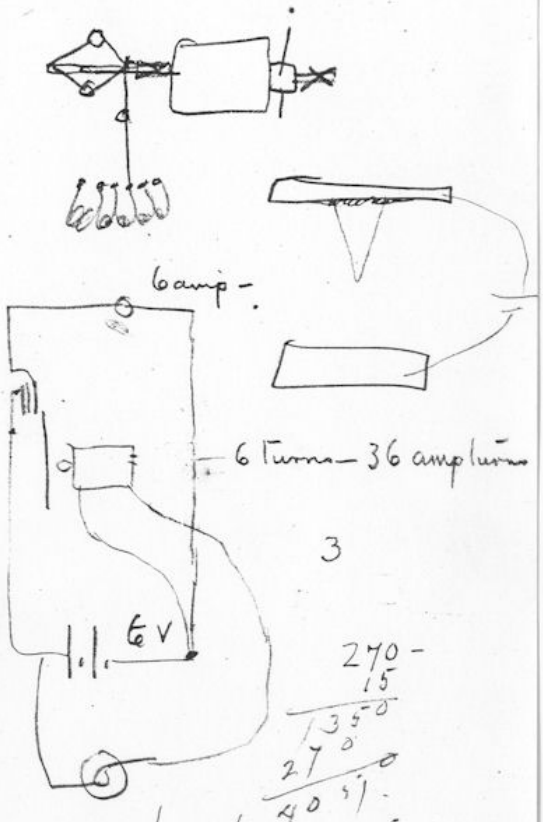
28

446
280
3568
8928
124.88
99.04

446
28
124880
8916
8716

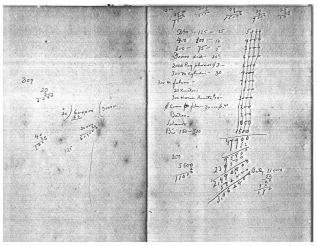
Lead. acid in on descha of P +neg.
E alkali in on charge of P+





270 | 3000 | 11
270 | 10
30 | 5

270 - 15 = 35-0
270
40 5 -



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[X104B2053], List, Thomas Alva Edison, March 1912

Title
[X104B2053], List, Thomas Alva Edison, March 1912

Editor's Notes
Supplied year and month

Author
Edison, Thomas Alva

Mentioned
Bates Manufacturing Co

Date
1912-03-00

Type
List

Subject

- Finances (TAE and family)
- Electric battery
- Cylinder phonograph
- Disc phonograph
- Home and professional kinetoscope

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300

20
300
6000

20) 600,000 (30000
60

300000 20
600,000

40
300
120

125

3 ∞
25 M
300
75

200
3.
600

50
300
1500

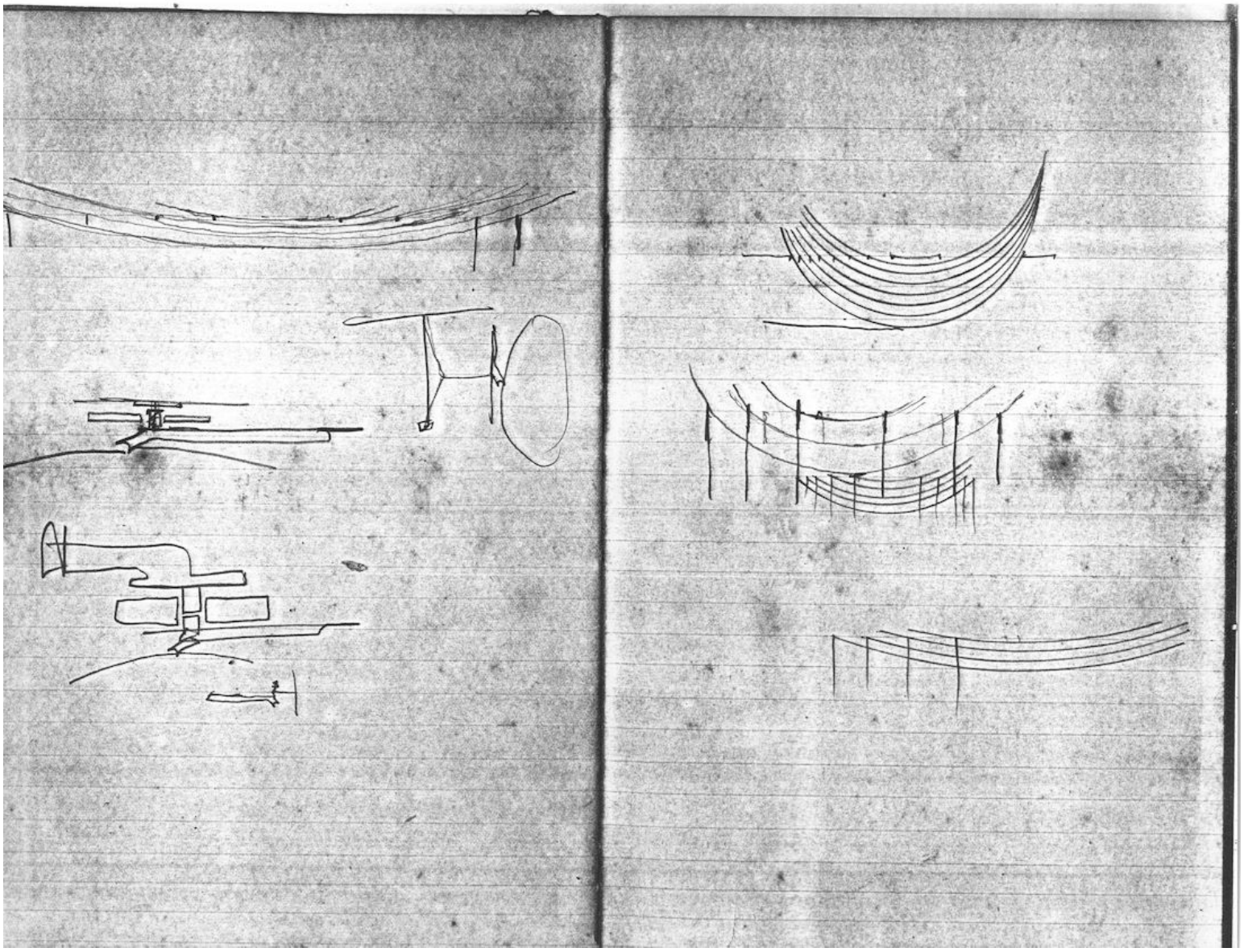
30
300
9000

2.5
20
50

360 - 125 = 25 5400
400 100 — 10 4000
600 — 75 — 5 3000
30000 desk — 20¢ 6000
2000 Reg phones @ 3 — 6000
300 m cylinder — 3¢ 9000
300 m felon — 7500
20 Kinetos — 500
300 Home Kinetos @ 10 — 3000
@ 6000 felon — 30 ∞ @ 4¢ 1200
Bates — 200
Lelands 1800
Bio 150 — 10 1500

47900
52
5800
5500
23900
21492
5724
3068
Batty. 11000
52
52
572

200
5500
2
11000



20 lbs NaOH

70 lbs Fe

70 / 400 (5.7
350
500

8c

12c 55 Fe_2O_3 —

100 lbs —

70 lbs Fe —

30 lbs O —
11
3
30
3.3 lbs H.

17 (30 (17.6
17
130
110
11

18 (20 (11.1
18
20
18
2

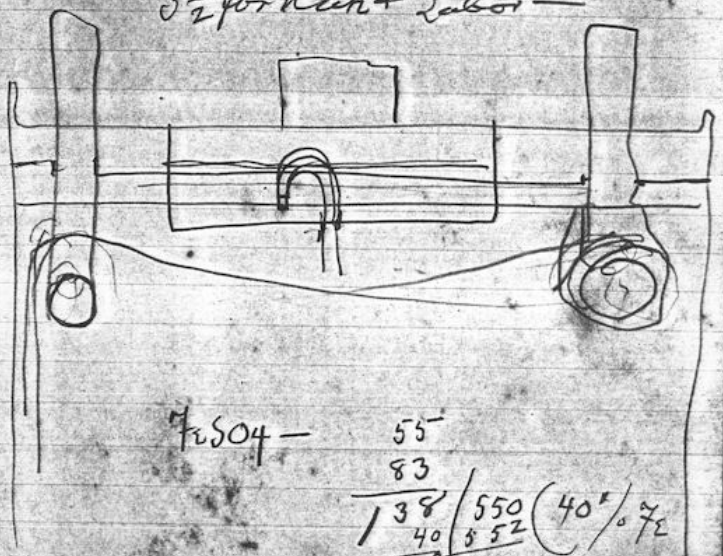
12% 17 50
45

25
17
17 5
25
4.2 5

17
20
3.4

2.4c

3 1/2 for Heat + Labor —



Fe_2SO_4 — 55

83

138 / 550 (40% Fe
40 552
5520

Na_2SO_4

23
23
46

2.25
60
1350

55 lbs Fe
60 lbs NaOH,

55 / 13.50. (24
110
25
1350

20

1800 20

360

2

30

2

300 60

75c Ewe - 1800 000 - 0

77 36 000

79 72

81 Bond OK 18,000 108 000 -

83 - 54 000 144 —

85 - 90 000 180

87 4% on 3 mill pfd 126 216

89 162 252

91 198 - 288

93 234 324

95 - 270 360

97 306 396

99 342 432

100, 354 444

40

5240
40
209.60

20960) 1886400 (9.4
33
6
9840
8640
936

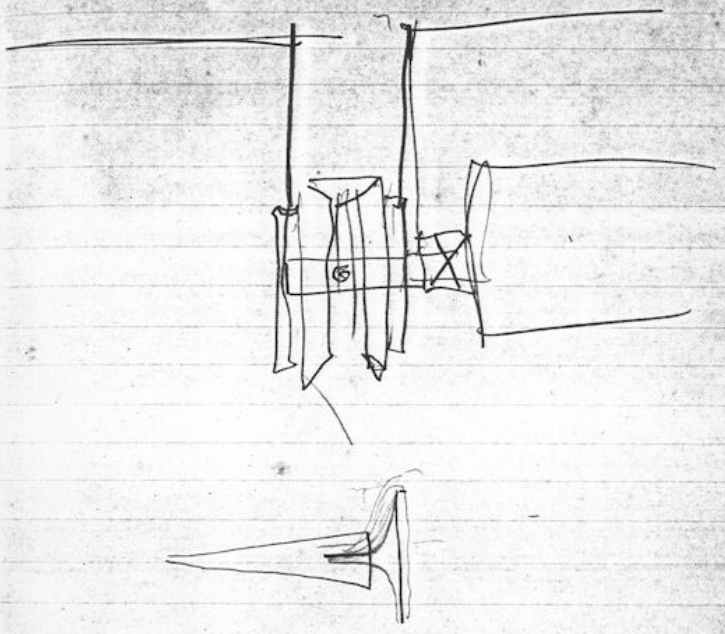
94) 7460 (79
658
880
846

80 watts.

135 60 = 120
60
720

130
60
78

110
60



4 | 400
100

10KW =
20
200

16
1800
128
160
288

100 amp
30
3000

100 - 180 / 85 / 265

265 / 19 / 2385 / 265 / 5035

2,500

265 / 120 / 0

265 / 89

15 / 20 / 30

4 | 270 / 67 / 33.7

150

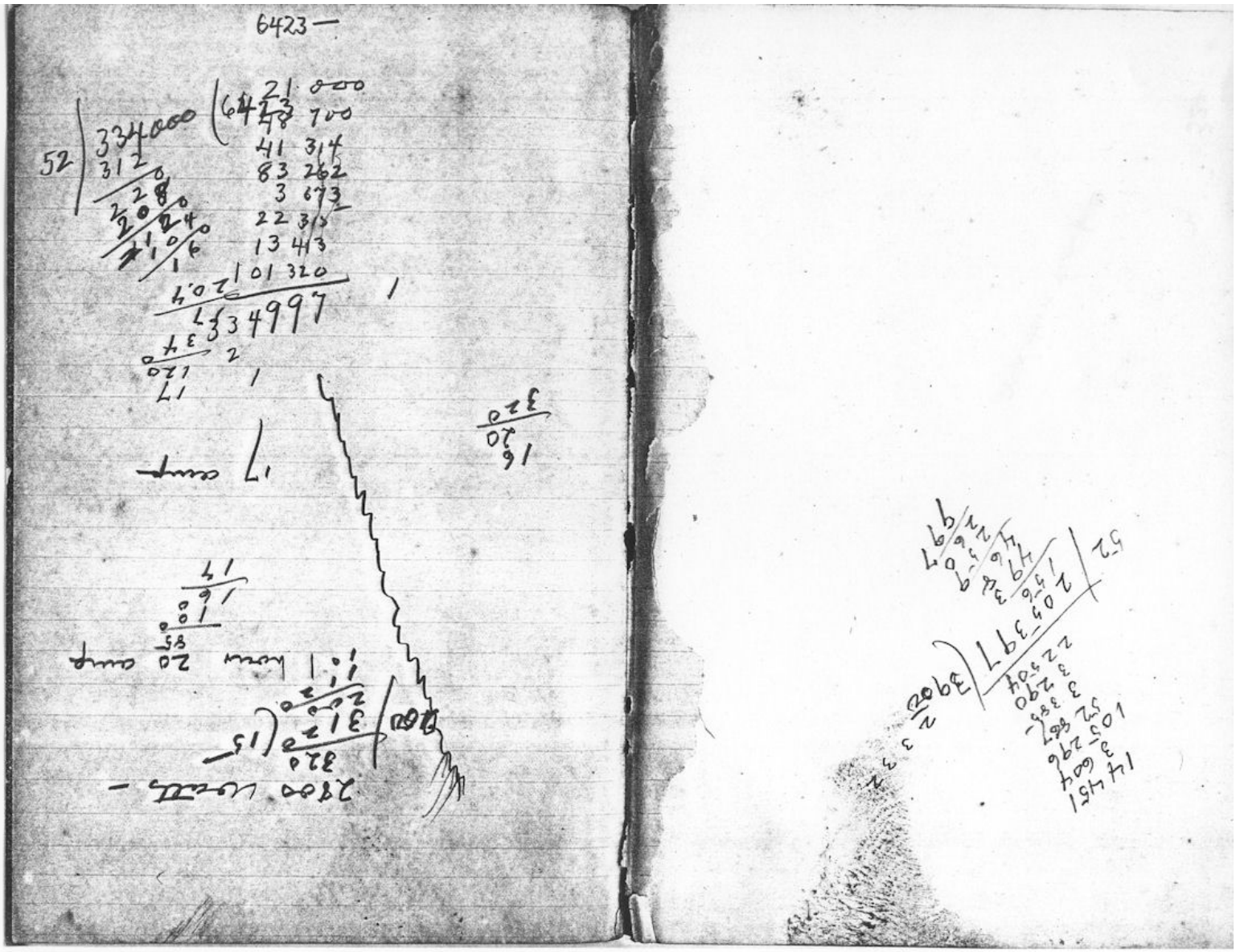
16 / 120 / 32 / 16 / 192

180 | 3100 (17.22
180
1300
1260
400
360
40

180 | 4000 (22
360
400

185 | 5031 (27.2
370
1335
1295
40

240
20
180 | 4800 (26.6
360
1200
1080
120



1000 ft min —

120000 —

5½ Hp —

4000 —

4 KW.

7=5 — 746 / 4000 (5

1700

5 2 5 —

7 5 5 —

12 / 127 / 1275 (1006

120000 — 24 hrs

1600 —

91 lbs 80

3 2 600

57

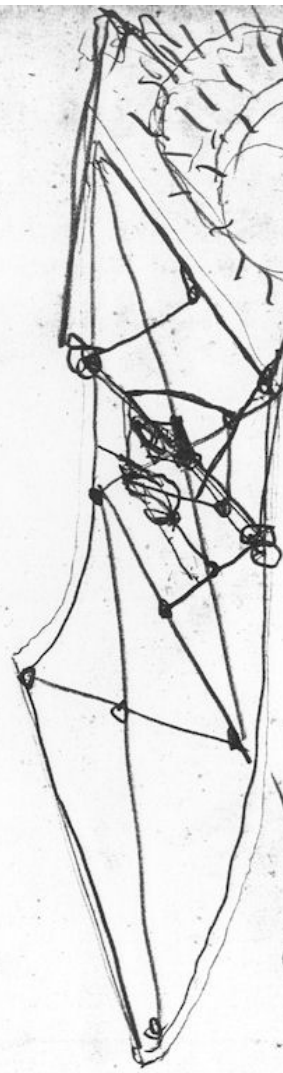
100

100

2 1/3 2 4/7 2 3/7

91 —

120000 / 11000 000 / 10800 000 / 200.000



4 / 2328

53 — 67

126

12

55

48 44.

3 6

4 0 4

4 2 6

2 5 0 8

51 / 2 5 0 8 0 0 0

72

4807

4807 0

9 / 4807 0

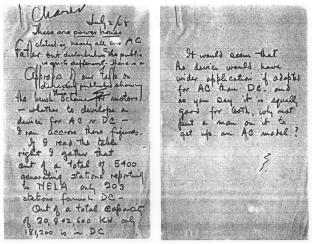
2 1 6 0 3 5

8

184

100

4



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[X104B2AAA], Letter from Charles Edison to Thomas Alva Edison, July 2nd, 1928

Title
[X104B2AAA], Letter from Charles Edison to Thomas Alva Edison, July 2nd, 1928

Author
Edison, Charles

Recipient
Edison, Thomas Alva

Date
1928-07-02

Type
Letter

Subject

- Central stations
- Electrical distribution system
- Alternating current

Folder ID
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Document ID
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Charles July 2/18

These are power house statistics, nearly all are AC Father but distribution to the public is quite different - There is a

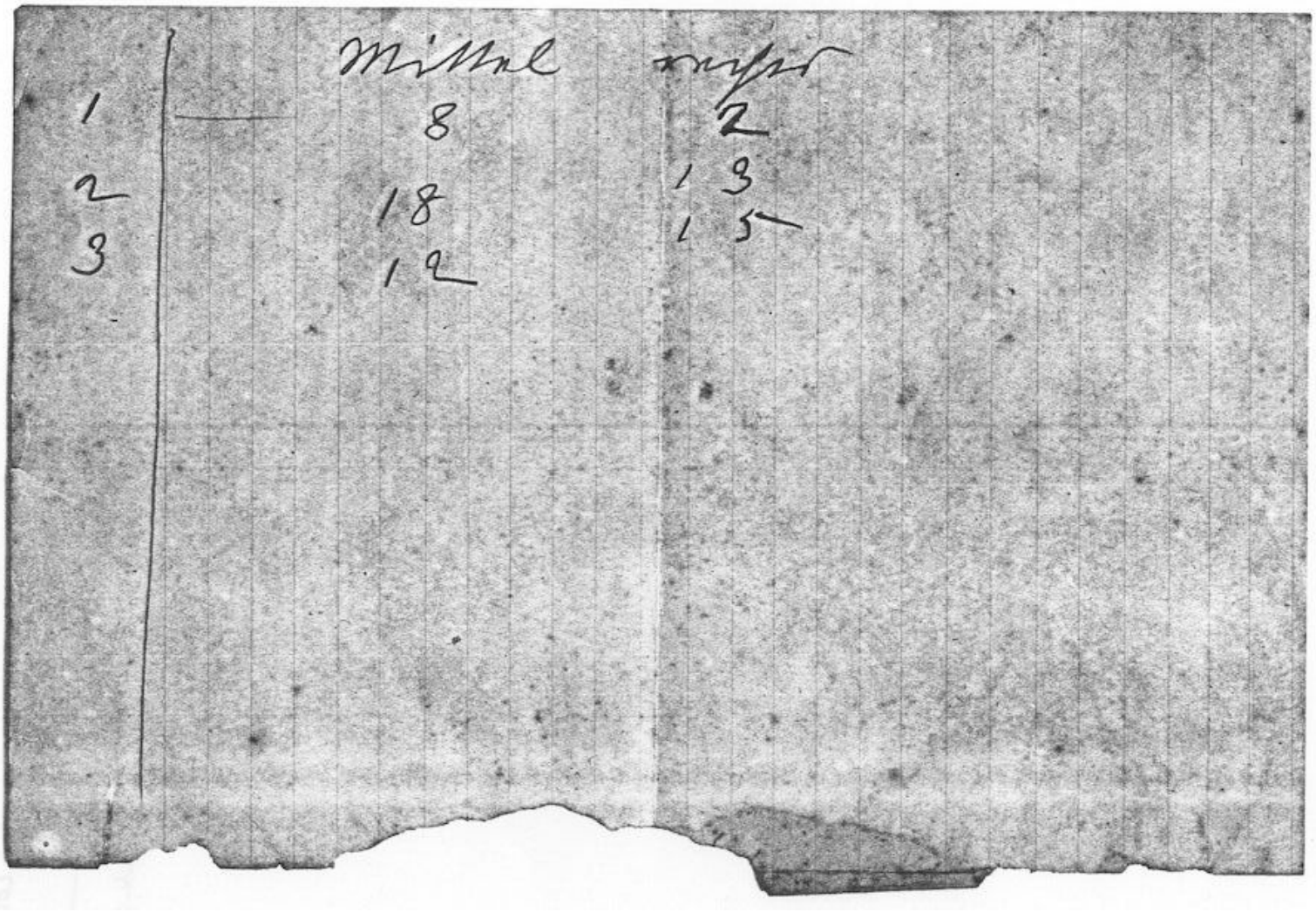
Apropos of our talk on direct drive published shows the brush scheme for motors - whether to develope a device for AC or DC - I ran across these figures.

If I read the table right I gather that out of a total of 5400 generating stations reporting to NELA only 203 stations furnish DC -

Out of a total capacity of 20,942,600 KW only 181,200 is in DC

It would seem that the device would have wider application if adapted for AC than DC - and as you say it is equally good for both, why not put a man on it to get up an AC model?

S.


1
2
3
8
18
12
2
13
15